

BAB VII

KESIMPULAN DAN SARAN

7.1 Kesimpulan

Berdasarkan hasil penelitian mengenai “Perbedaan Nilai Risiko Osteoporosis dan Fraktur Berdasarkan FRAX® *Tool* antara populasi lansia Rumah Usiawan Panti Surya dan Posyandu Lanjut Usia Mekarsari” yang dilaksanakan pada tanggal 30 Juli – 1 September 2018. Selama penelitian didapatkan sebanyak 64 sampel dari masing – masing populasi yang memenuhi kriteria inklusi. Nilai FRAX didapatkan dengan wawancara secara langsung. Data bersifat ordinal dan diuji menggunakan uji komparasi *Pearson Chi-Square*. Didapatkan nilai $p = 0,505$ yang menunjukkan bahwa terdapat perbedaan nilai risiko osteoporosis berdasarkan FRAX® *Tool* yang tidak signifikan antara populasi lansia Rumah Usiawan Panti Surya dan Posyandu Lanjut Usia Mekarsari. FRAX® *Tool* bisa digunakan untuk skrining osteoporosis kepada masyarakat dan fasilitas kesehatan terutama tingkat pertama.

7.2 Saran

7.2.1 Bagi Masyarakat

Meningkatkan kesadaran dan pengetahuan terhadap osteoporosis dan menghindari faktor – faktor risiko penyebab osteoporosis.

7.2.2 Bagi Tenaga Kesehatan

Memberikan edukasi kepada masyarakat mengenai pentingnya mengatur pola makan, aktivitas fisik rutin dan pola hidup sehat, serta menggunakan FRAX® *Tool* untuk skrining primer osteoporosis.

7.2.3 Bagi Peneliti Selanjutnya

Penelitian selanjutnya dapat dilakukan penelitian yang bersifat *multicenter* terhadap populasi yang lebih luas. Hal ini bertujuan untuk mendapatkan profil bagaimana keadaan suatu populasi di daerah tersebut, sehingga dapat memperbaiki atau menurunkan nilai risiko osteoporosis pada populasi tersebut.

DAFTAR PUSTAKA

1. Widiakustanto & Manullang, E. V. Buletin-Lansia. (2013). doi:10.1017/CBO9781107415324.004
2. Maryam, S. Pedoman pencegahan jatuh bagi lansia di rumah. 0–12 (2013).
3. Cho, B., Scarpace, A. D. & Alexander, N. B. Tests of Stepping as Indicators of Mobility, Balance, and Fall Risk in Balance-Impaired Older Adults. 1168–1173 (2004).
4. APTA. Balance and Falls. *Neurol. Rep.* **23**, 182 (1999).
5. United Nations / Department of Economic and Social Affairs. World Population Prospects : The 2008 Revision. *Popul. Newsl.* **87**, 1–20 (2009).
6. Johansson, H. *et al.* A meta-analysis of the association of fracture risk and body mass index in women. *J. Bone Miner. Res.* **29**, 223–233 (2014).
7. de Almeida, S. T., Chaves Soldera, C. L., de Carli, G. A., Gomes, I. & Lima Resende, T. de. Analysis of extrinsic and intrinsic factors that predispose elderly individuals to fall. *Rev. da Assoc. Médica Bras. (English Ed.* **58**, 427–433 (2012).
8. Kanis, J. A., Johnell, O., Oden, A., Johansson, H. & McCloskey, E. FRAXTM and the assessment of fracture probability in men and women from the UK. *Osteoporos. Int.* **19**, 385–397 (2008).
9. Incidence of hip fractures ANNUAL HIP FRACTURES FOR POPULATION AGED 50 YEARS. 2012 (2012).
10. Mithal, A., Dhingra, V. & Lau, E. International Osteoporosis Foundation. *Asian Audit Epidemiol., costs Burd. Osteoporos. Asia 2009* 1–12 (2009). doi:10.2499/9780896297852
11. Sain, B. I. & Kp, S. ASKEP pada Klien dengan gangguan Metabolisme Tulang : OSTEOPOROSIS. 42–52
12. World Health Organization. World Report on Ageing and Health. *World Heal. Organ.* 4–260 (2015). doi:10.1007/s13398-014-0173-7.2
13. Johnell, O. & Kanis, J. A. An estimate of the worldwide prevalence and disability associated with osteoporotic fractures. 1726–1733 (2006). doi:10.1007/s00198-006-0172-4
14. Sozen, T., Ozisik, L. & Calik Basaran, N. An overview and management of osteoporosis. *Eur. J. Rheumatol.* **4**, 46–56 (2017).
15. Looker, A. C., Sarafrazi Isfahani, N., Fan, B. & Shepherd, J. A. FRAX-based Estimates of 10-year Probability of Hip and Major Osteoporotic Fracture Among Adults Aged 40 and Over: United States, 2013 and 2014. *Natl. Health Stat. Report.* 1–16 (2017).
16. Kanis, J. A. Diagnosis of osteoporosis and assessment of fracture risk. **359**, 1929–1936 (2002).
17. Pongchaiyakul, C. *et al.* The association of dietary calcium, bone mineral density and biochemical bone turnover markers in rural Thai women. *J. Med. Assoc. Thail.* **91**, 295–302 (2008).
18. McCloskey, E. FRAX[®] Identifying people at high risk of fracture. (2009).
19. Hughes, C. A., Larson, A. E. D. R. & Kaufman, K. R. Balance disorder and increased risk of falls in osteoporosis and kyphosis : significance of kyphotic posture and muscle strength. 1004–1010 (2005).

- doi:10.1007/s00198-004-1791-2
20. Borra, C. & Vin, J. Critical Review Theories of Ageing. **59**, 249–254 (2007).
 21. Viña, J., Borrás, C. & Miquel, J. Theories of ageing. *IUBMB Life* **59**, 249–254 (2007).
 22. Taylor, A. W. & Johnson, M. J. *Physiology of Exercise and Healthy Aging. Library of Congress Cataloging* (2008).
 23. Tamtomo, D. G. Perubahan anatomik organ tubuh pada penuaan. (2016).
 24. Sabatini, S. N., Kusuma, H. E. & Tambunan, L. Faktor Eksternal Risiko Jatuh Lansia : Studi Empiris. 59–63 (2015).
 25. Schwartz, A. V *et al.* Association of BMD and FRAX Score With Risk of Fracture in Older Adults With Type 2 Diabetes. **1762**, (2011).
 26. Syam, Y. *et al.* Fraktur akibat osteoporosis 2. **2**, (2000).
 27. Fogelman, I., Van Der Wall, H. & Gnanasegaran, G. Radionuclide and hybrid bone imaging. *Radionucl. Hybrid Bone Imaging* **9783642024**, 1–1046 (2012).
 28. Kanis, J. A. *et al.* European guidance for the diagnosis and management of osteoporosis in postmenopausal women. *Osteoporos. Int.* **19**, 399–428 (2008).
 29. Cosman, F. *et al.* Clinician’s Guide to Prevention and Treatment of Osteoporosis. doi:10.1007/s00198-014-2794-2
 30. Delmas, P. D. Treatment of postmenopausal osteoporosis. **359**, 2018–2026 (2018).
 31. Hurwitz, S. Journal of Osteoporosis & Physical. **4**, (2016).
 32. Fgren, N. L. Ö., Halvarsson, A., Hle, A. S. T. Å. & N, E. F. É. Gait characteristics in older women with osteoporosis and. 139–145 (2013). doi:10.3109/21679169.2013.827238
 33. Kanis, J. A. *et al.* SCOPE: A scorecard for osteoporosis in Europe. *Arch. Osteoporos.* **8**, (2013).
 34. Ginaldi, L., Cristina, M., Benedetto, D. & Martinis, M. De. Immunity & Ageing Osteoporosis , inflammation and ageing. **5**, 1–5 (2005).
 35. Juniarti, N., Padjadjaran, U., Centre, N. & View, I. SKRINING OSTEOPOROSIS : HUBUNGAN USIA DAN JENIS KELAMIN DENGAN KEJADIAN OSTEOPOROSIS DI DESA CIJAMBU KECA (2015).
 36. Canalis, E., Mazziotti, G., Giustina, A. & Bilezikian, J. P. Glucocorticoid-induced osteoporosis : pathophysiology and therapy. 1319–1328 (2007). doi:10.1007/s00198-007-0394-0
 37. FOGELMAN, I. & Roushan, M. R. H. Rheumatoid Arthritis and Osteoporosis. *Rheumatology* **25**, 240–242 (1986).
 38. NIH Osteoporosis and Related Bone Disease ~ National Resource Center. What People With Rheumatoid Arthritis Need to Know About Osteoporosis | NIH Osteoporosis and Related Bone Diseases National Resource Center. **58**, 1–3 (2016).
 39. Kanis, J. A. *et al.* Smoking and fracture risk: A meta-analysis. *Osteoporos. Int.* **16**, 155–162 (2005).
 40. National Institutes of Health, N. Smoking and Bone Health. *Bone free TTY*, 202–223 (2016).

41. Kemenkes RI. Data & Kondisi Penyakit Osteoporosis di Indonesia. (2015).
42. NIH Osteoporosis and Related Bone Disease ~ National Resource Center. What People Recovering from Alcoholism Need to Know About Osteoporosis Alcoholism and Recovery. *Bone free TTY*, 202–223 (2016).
43. Sihombing, B. & Ginting, G. Manajemen osteoporosis pada lansia.
44. Moreira, L. D. F. *et al.* Physical exercise and osteoporosis: effects of different types of exercises on bone and physical function of postmenopausal women. *Arq. Bras. Endocrinol. Metabol.* **58**, 514–522 (2014).
45. Nik Mohd Hatta, N. N. K. *et al.* Fracture risk prediction in postmenopausal women with osteopenia and osteoporosis: preliminary findings. *Enferm. Clin.* **28**, 232–235 (2018).
46. Prof.Dr. Sudigdo Sastroasmoro, S. A. *DASAR-DASAR METODOLOGI PENELITIAN KLINIS*. (2014).
47. Maghraoui, A. El *et al.* The discriminative ability of FRAX , the WHO algorithm , to identify women with prevalent asymptomatic vertebral fractures : a cross-sectional study. 1–8 (2014).
48. Hollman, J. H., Kovash, F. M., Kubik, J. J. & Linbo, R. A. Age-related differences in spatiotemporal markers of gait stability during dual task walking. **26**, 113–119 (2007).
49. Ramadani, M. FAKTOR-FAKTOR RISIKO OSTEOPOROSIS DAN UPAYA PENCEGAHANNYA. 111–115
50. Wardhana, W., Pendidikan, P., Kedokteran, S., Kedokteran, F. & Dipoegoro, U. FAKTOR – FAKTOR RISIKO OSTEOPOROSIS PADA PASIEN DENGAN USIA DI ATAS 50 TAHUN LEMBAR PENGESAHAN LAPORAN HASIL KTI FAKTOR – FAKTOR RISIKO OSTEOPOROSIS PADA PASIEN DENGAN USIA DI ATAS 50 TAHUN. (2012).
51. Setyawati, B., Prihatini, S., Rochmah, W. & Pangastuti, R. Hubungan Indeks Massa Tubuh dengan Densitas Mineral Tulang pada Perempuan Dewasa Muda. *J. Penelit. Gizi dan Makanan* **34**, 93–103 (2011).
52. Nashirin, A. K., Zaki, A., Widjajakusumah, D. & Fadhilah, M. Hubungan Nilai Indeks Massa Tubuh Dengan Nilai Risiko Fraktur Osteoporosis Berdasarkan Perhitungan Frax ® Tool Pada Wanita (2016).
53. Denise, L., Moreira, F. & Oliveira, M. L. De. Physical exercise and osteoporosis: effects of different types of exercises on bone and physical function of postmenopausal women. **58**, (2014).
54. Kk, G. The Association of Dietary Calcium , Bone Mineral Density and Biochemical Bone Turnover Markers in Rural Thai Women. (2008).
55. Dicker, D., Belnic, Y., Goldsmith, R. & Kaluski, D. N. Relationship between dietary calcium intake, body mass index, and waist circumference in MABAT--the Israeli National Health and Nutrition Study. *Isr. Med. Assoc. J.* **10**, 512–515 (2008).